THE STARS IN DECEMBER.

ward the west and close to the Milky

Above our heads shines the other

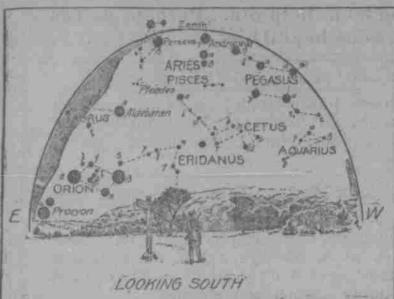
sion, the two Zodiacal Constellations

"Aries" (The Ram) and "Pisces" (The Fishes), the splendid cluster of

Just underneath, behold the star "a"

last month, all about its strange va-

Now let us turn about, and



above her "King Cepheus" has riided | Jackal," the leader of the "Celestial to the west, while "Auriga" with its Doga." Further west, the last stars first magnitude adds to the splendor that 95 per cent of every load hauled beautiful "Capella" (The She-Goat) of the Great Dipper, popularly known of this celestial region: It is Processon, by railroads must be carried in a waand her "Kids," has followed Perseus as the Pointers look straight toward up to the Zenith. The Gross of the superb Castor and Poliux (second "Cygnus" (The Swan) is never more magnitude) of the Zodiacul Constelbeautiful than during this month as it lation "Gemini" (The Twins). Just Hes among the million stars that form below Pollux, shines feebly the inthe "Milky Way"-"St. Jacob's Road," significant stars constituting the Zowa the French peasants call it. Its discal Constellation "Cancer" (The largest star Deneb (Arabic for "Tail") Crub). A pretty aggregation of is of the second magnitude; the star at | minor stars, a "nebula" called "Prothe opposite extremity of the same escpe" has its home within the domain arm of the cross is Albireo of the of Cancer. With Vega, the first mugthird magnitude; it is said to mark nitude star of "Lyra" (The Lyre) tothe beak of the Swun. It is a double star; its larger component, a pale Way, this aspect of the sky is comred, its smaller one, a beautiful blus, pleted. To the right of Cygnus, the curiously begin looking southward. complicated shape of "Druco" (The Dragon) with its six folds, forms first half of "Perseus;" under it, in succesa small, lower square, then a triangle between Cygnus and the Little Dipper; finally its neck and head end with the handsome Thuban of the the "Pictades" to the left of Pisces. third magnitude, just between the two Dippers. As I stated before Thu- of "Cetus" (The Whale), in the jaw ban was 4,540 years ago the pole star; of the beast; it is called Menkar and the change is due to a small annual is only of the third magnitude; "Miraniteration in the position of the earth's Coell" (The Marvel of the Heaven) axis, of which I may have to speak | belongs to the same Cetus; I told you

This month the Great Dipper, this garies; I will add that it takes this star

(Copyright line by (t de Saint-Germain), favorife among Constellations, is 331 days to change from the second to rection. During the later part of the There are but few Constellations to somewhat higher above the horizon; the night magnitude and vice versa. Inight "Mare" sends forth its rundy gaze upon in the December skies it used to be known also as "David's Returning to the Zenith, we find glow, "Jupiter," owing to its near-that we have not had occa- Chariot," or simply the "Great Char- "Andromeda" close to her resoure ness to the sun, is not visible, "Satsion to admire during the month fot." The Egyptians called it the "Perseus;" she has not yet found time of November. But their positions have "Thigh of the Northern Sky" or the sairted. "Perseus has moved to the "Thigh of the Ox," and, to this day, senith, half of it behind our the Arabs speak of it as "The Leg." dermanth, the faithful steed "Pegassus" firmament during the last month of heads, so to speak "Queen Cassiopeia" In other countries it is called "The displays its opleaded square completed by star "a" of Andromeda, Alpherats of the third magnitude. "Enif," its very last star toward the east, supposed to shine from the nostril of the Winged Horse, is just above the Zodlacal Constellation "Aquarius" (The Water Bearer), a sort of double triangle, with its largest star, Sadal-

melik, of the third magnitude. The west is lighted up by some admirable examples of first and second magnitude stars. To the left of the Pleiades, and partly within the domain of the Zodiacal Constellation "Taurus," shines the superb Aldebaran; under it the splendid square of "Orion" with entitled to have the stream flow "Botelgeuse" (The Shoulder) to the through his land, undiminished in west, and "Rigel" (The Foot) to the east. The other corners of the square are marked, upwards by "Bellatrix" (The Female Warrior), downward by "Mintaka" both of the second magnitude; there are three stars of the same dimension in a row within the The utility of good roads requires no enclosure; they are called "The Three | exposition. Leaving the railroads out Kings"; truly Orion is one of the most glorious sights in the heavens. Close which government is responsible to to the horizon, another orb of the the people, one expert estimate states

the year 1900.

C. de BAINT-GERMAIN.

Stops a Water Monopoly. An irrigation company in Nebraska was sued by a farmer who proved that s canal dug by the company had decreased the flow of water at his place. The canal furnished water for irrigation purposes. The trial court held that he should be granted an injunction forbidding the further appropriation of water, and on appeal the supreme court sustained this view. The court held, according to an old law, that the proprietor of a river bank is quantity and unimpalared in quality.

Economy in Good Roads. The common road is the connecting link between the farm, the home, the country school house and the church. of the category of public roads for of this celestial region; it is Procyon, by railroads must be carried in a wa-

GREAT DIPPER LOOKING NORTH

of the Constellation "Canis Minor" | gon or truck over a highway. River Eridan) displays its zigzag a question of a wise public policy, shape, not unlike the course of its prototype, the Italian River Po.

east, just before sunrise; after that former, to James Freeman Clarke, date it becomes invisible. Before day- with marginal comments by the latter, break "Venus," now the morning star, shines splendidly in the eastern di- \$75.

(The Little Dog). Toward the mid- more convincing proof is needed that dle of the horizon "Bridanus" (The building and maintaining highways is

A letter from Theodore Parker, the Until the 20th, "Mercusy" lights the famous Unitarian preacher and rewas sold in Boston the other day for

Can any one offer any valid objection to this proposition?

Increase the army of the United States from its present size to 1,000,000 men. Divide it into departments ilmited to states and put each department under a good general who undertime we would have a system of good advance.

What is an army good for if it can't build good roads in time of peace. Those who offer great objections to a vast standing army could not find fault with a vast moving one of such a character.-Ex.

Automobile Fire Engines.

the fre alarm sounds to see the ponderous doors of the engine houses fly old stamping and dashing of flory

hurry to the fires in much quicker time than the fastest horses could have gone. All the old dash of wind, try towns. It is a strange sight when almost uncontrollable horses, driven by a man who seems on the point of being dragged from his sent; the confusing sounding of gongs and belis and shouting of the sappears, cursing of drivers and street passengers, taken unawares-all this is a thing of the gine wends its way with comparativeconfingration. Here again, ly little noise and conspiculty through of course, is the spectacle of the loss of the crowded thoroughfares. All that occupation to a lot of brave fellows warns of its approach is the constant The stablekeepers and the grooms ringing of a loud electric bell, which have been driven out. Instead there is does not vary even when the passage a single engineer for each vehicle, is obstructed. The police, however, whose sole occupation is to keep his are instructed to arrest the driver of auto-engines in trim during the long any vehicle that does not at once re-



AN AUTOMOBILE FIRE ENGINE.

ontained inside the body of the wagon and a passage for smoke is formed by a continuation of the pipe. It can be readily understood that if the wick is ignited and the feet are placed over the warming chamber and covered with a robe they will be perfectly HANDLING DISEASE GURMS. Millions of ravaging discuse germs comfortable themselves and also aid are fostered and fed in the bacteriologreatly in the circulation of blood gical laboratory which is owned by the through other portions of the body.

Beston board of health. There are all

kinds of burlill, from the bubonle

plague specimen which has the power

to extinguish a human life in the short

period of a few days, to the dull, half-

doed mites that require years and

years of frequent, even continuous, at-

dependent. Maybe there are microbss

to such an extent that they actually

lose sight of the effectiveness of the

method whereby it is kept and cared

for, and they even allow this unwar-

ranted fear to interfere with business

prospects, says the Boston Transcript.

Here is an example: The laboratory

is located in the Sudbury building on

Sudbury street. Its quarters being

somewhat unsatisfactory for the work,

the board of health sought premiaes

nearer the center of the city and final-

ly obtained an option on suitable

rooms. Preparations were made for

the removal of the laboratory to the

new location, but at the fast moment

the owner of the building changed his

mind in accordance with his ground-

less fears, and the laboratory had to

remain in the Sudbury building. Pos-

sibly it will be taken into the old

court house after that structure has

It may be useful, therefore, to look

mto the bacterial camp, the scientific

prison of so many enemies of life and

happiness. Death lurks in every cor-

ner like a feasting parasite, without hope and without desire to escape, ev-

erywhere watched by the bacteriolo-

gists, who handle it with calm and

authority. Under the conditions there

good health of the doctors and attend-

drenched in serum or agar, which,

while it feeds the microscopic organ-

dry, and they are never dry except

completed, excepting the glass recep-

tacles and instruments, which can be

cleansed by chemical solutions. Ani-

WEEPS THE PRET WARM.

carriage lamp and foot warmer re-

COMBINATION CARRIAGE LAMP.

cently patented, for use in cold weath-

provide simple and effective means by

which a continuous warmth at little

expense may be supplied to the feet

of the occupant of the vehicle, and in

which the arrangement is such as to

The object of the invertion is to

or dwelling house.

ante will attest.

been renovated and enlarged.

CANADIAN SEEDING DEVICE. The sowing of grass and other fine grain evenly in a difficult task when attempted by hand and most of the patent seeders offered for sale are too tacks in order to deprive man of the costly for the average farmer to inpleasures of life. There are descend- vest in, especially when it is taken ants of germs who did their last deadly | into consideration that the seeder will work in some remote part of China or only be used once or twice a year, India, germs which have caused much | With the idea of providing a cheap and sorrow in the very heart of this city, simple apparatus, which will sow the gnawed off the heaviest bonds of seed rapidly and evenly, a Canadian infriendship, and brought poverty lato ventor has designed the apparatus families that were comfortable and in- illustrated above. It consists of cloth sack suspended from the shoulder and that have traveled the country over in provided at its single lower corner futile quest of victims, or assailed the with a funnel leading into the distriliving as well as the dead on the buting tube. The funnel has an Inmysterious bottom of the sea, because | ternal gate to limit the amount of this great collection is gathered at dif- arain passing through. In the outer ferent times from mineral as well as end of the tube is arranged a series of organic matter. It is an army that deflecting fingers, which aid matericould produce an awful calamity were ally in the distribution of the grain, It set at liberty and given proper di- which is accomplished by awinging rection toward that end. There are the tube from side to side while held in people in Boston who fear this army a slanting position, the grain falling



GRAIN-SOWING APPARATUS

toward the outlet as long as the end is held downward and the gate left open Owing to the length of the tubs the area covered at each swing is considerably greater than could be seeded by

Museles and Brein-

In one of his recent lectures at Clark University, Prof. Angelo Mosso of Turin averred that "Physical eduis absolutely nothing to fear, as the cation and gymnastics serve not only for the development of the muscles, but for that of the brain as well." It Every little group of germs kept in is becoming evident, he said, that are stock lies imprisoned in a glass tube, much time should be devoted to musculur exercise as to intellectual exercise, and children should begin readism, also prevents its escape even if ing and writing only after they are the stopper were removed from the nine years old. Muscular fatigue exmouth of the tube, and each tube is hthita phenomena identical with inscaled with paraffin. No germs can tellectual futigue. Nerve cetts ahow. rise from the media and sail in the air. They rise only when they are on the average every ten seconds a only part of the brain is active at the when the bacteriologists dry them on time; the various parts relieve each a glass slide over a hot fire, which other. The more mobile any animal's kills them. All the material which is extremeties are, the more intelligent, used in the researches is destroyed by fire as soon as the experiments are other things being equal, he is

Chinn's Coal Fields. China contains some of the richest coal deposits in the world. Last fall mais injected with the more dangerous germs are not kept in open iron | Professor Drake of Tientain visited the coal fields in the province of Shanet, cages during the incubation period; they are put into glass bowls and excluded from all chances of coming which were examined by Baron von Richthofen in 1870, and found that into contact with snything which they are of immense extent. The coulmight transfer the disease. Summing area is said to be greater than that of Penusylvania, and the anthracite coal the story up in a few words, the laboratory is an safe to bealth as any office slone contained in these fields has been estimated at \$30,000,000 tons. The Shansi coal beds are so thick and He so uniformly in a horizontal post-The illustration shows the combined tion that the practicability has been suggested of running long lines of railroad tunnels through the beds so that the cars can be louded in the mines all ready for distant transpor-

> To Protect the Great Redwoods. It was reported at the reveat meeting of the American Association for the Advancement of Science that the redwood forests of the Pacific coast are now practically all in the hands of private owners who hold them for lumbering purposes. Since the redwood rivate the gigantic sequals in also and interest, it is deemed a matter of ecientific importance that it should be preserved, and the association approved the action of its hotanical section in favoring the purchase and preservation of a public park in the Santa Cruz mountains covering more than 25,000 acres, and occupied largely by the primeval redwood for-

> > Wonderlat Variable Stars.

In studying the variations in the light of certain stars in the chater known as "Messier 3," Professor Bailprovide a light whose rays may be di- or has found one star whose changes rected on the road in advance of the are so rapid that in thirty minutes it team. This object is situined by gales more than an entire magnifude. mounting the lamp proper directly un- in other words, becomes more than derneath the body of the vehicle, with two and a half times as bright as it the oil reservoir located below and at | was at the beginning. Several others the rear lamp. Leading from the rea- vary with a rapidity almost equally ervoir to the ismp is a corved tabe startling. Their entire period of voricontaining the feed wick, and is line ability from one maximum to the next with the blaze is the glass bull's-eys, Is shout half a day, but they gain light through which the rays are emitted, much quicker than they lost it. It Directly over the flame is a vertical neems impossible to regard such start , take leading to a warming chamber as suns to the sense of our sun.

A Royal Engagement.



partiet faction in France. Prince Louis | as a lau.

Prince Louis Napoleon and the | is the much beloved of the reactionar-Grand Duchess Helena of Russia are les. He is respected far more than officially announced affianced husband either his brother, Prince Victor, who and wife from St. Petersburg. Louis was disinherited by his father, Jerome has been an officer in the Russian Aspoleon, or Prince Louis of Orleans. army for the peat fifteen years, and is the royalist pretender. Louis Naponow a general of cavalry. His com- leon is a soldier, a strong man, watchmand is the regiment of the Caurina's ful of his opportunities, purposeful Luncers one of the favorite organi- and ambitious. He is a stranger to greats, impatient to rush down the past. Instead the trim electric fire ensations of the Muscovite army. His be- France, unlike his brother Victor, the trothed is the daughter is the Grand natural beir to the imperial throne, he of Duks Viadimir, uncle of the cair. She has been "preparing himself for war" is one of the most eligible princesses with France always in view. Little of all Europe. This alliance is bound | has been heard of him since he enterto strengthen the cause of the Bona- of the Russian military service almost

saltied forth to cover Mr. Dilley with | corned. far and feathers. This they were unmble to do on account of Dilley's powwas quickly rendered unfit for further | circulation.

Loves Hard Rown Connecticut use. Dilley, safe in an adjoining coun-They have some queer, old-fashioned by, is now threatening legal proceednotions down In Connecticut. The ings, and the widow is sighing alone other day a man named Lewis E. Dil- and walting. The case touches a lesley, aged thirty-eight, announced to son that is very plain. Dilley should the citizens of Hartland, a small town have had the foresight to pose as an in the interior of the state, that he impecuations dude or a have-brained was about to marry Mrs. Gower, a count, and the old woman should have widow sixty-six years of age, by disguised herself as the daughter of whom he has recently been employed some railroad king. If they had done as a farm hand. He had even secured that no man in Connecticut or anya license, and she had made various where else would have dared to cut preparations for the thrilling event. the whe or pull out the plug or other-Then the neighbors began to get in- wise break the circuit. The people of They held mass meetings Connecticut should be severely conand made speeches, and came to the sured. If our beautiful, golden-haired general conclusion that Dilley was an young girls, scarcely past twenty-one ingintions wretch—a base deceiver— and heiresses to millions, may make who wanted the Widow Gower's mon- fools of themselves and by so doing ey, for it was known that besides her reach lofty social stations, why shall farm she had \$1,000 in the bank. No our 66-year-old widows be rudely man they argued would want to mar-yanked out of Love's young dream?

ry a widot: sixty-six years of age ex- Somewhere in this lessiness a balance copt for the gratification of mercenary must be struck, and the earlier it is motives. Having thus decided, they done the better will it be for all con-

The Prince of Wales has taken to een as a sprinter, but one anger old writing verse. It is said in London man succeeded in tearing the mar- that a small volume containing a colriags license out of the lover's hand as lection of his works is to be handhe whirsed past, and the document sumsly printed, but only for private

A Great Moving Army Needed | roads that would last for the centuries,

Senator Hour of Massachusetts alstands how to superintend the con- ways prepares his speeches most carestruction of good roads. Then put fully, and although he often appears to every mother's son of the great army have no notes, yet what he says has at work. Each state would bear its generally been determined upon even own part in the expense. In ten years | to the alightest word at least a day in

Electricity has gained another vic- | manipulate them when the fire alarm

tory over horse and steam power. The sounds. fire department of Paris is now abolishing horses from all the fire engine nouses of the city and is selling its old fashioned steam fire engines to counopen and from it emerge the modern electric fire engines monned by only two sappears. There is none of the crowded avenues to the scenes

The engine and the book and ladder